

SOLICITATION, OFFER AND AWARD		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350)		RATING DO-C9E	PAGE OF 1 20 PAGES	
2. CONTRACT NO.		3. SOLICITATION NO. N00173-01-R-SE01		4. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)		5. DATE ISSUED 05 MAR 2001
7. ISSUED BY DEPARTMENT OF THE NAVY Naval Research Laboratory-SSC Code 3235, Attn: EJS Stennis Space Center, MS 39529-5004		CODE N68462		6. REQUISITION/PURCHASE NO. 67-3203-01		8. ADDRESS OFFER TO (If other than Item 7)

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

SOLICITATION

9. Sealed offers in original and **L-9,10** copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in **Bldg 1100, Stennis Space Center, MS 39529** until **15:30** local time **05 APR 2001**
(Hour) (Date)

CAUTION - LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-10. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:	A. NAME Eric J. Sogard	B. TELEPHONE NO. (Include area code) (NO COLLECT CALLS) 228-688-5980
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OFFER (Must be fully completed by offeror)

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52-232-8)	10 CALENDAR DAYS %	20 CALENDAR DAYS %	30 CALENDAR DAYS %	CALENDAR DAYS %
14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated:	AMENDMENT NO.		DATE	

15A. NAME AND ADDRESS OF OFFEROR	CODE	FACILITY	16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)
15B. TELEPHONE NO. (Include area code)		15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE. <input type="checkbox"/>	17. SIGNATURE
			18. OFFER DATE

AWARD (To be completed by Government)

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT	21. ACCOUNTING AND APPROPRIATION	
22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304(c) () <input type="checkbox"/> 41 U.S.C. 253(c) ()		23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified) ITEM	
24. ADMINISTERED BY (If other than Item 7) CODE		25. PAYMENT WILL BE MADE BY CODE	
26. NAME OF CONTRACTING OFFICER (Type or print)		27. UNITED STATES OF AMERICA (Signature of Contracting Officer)	
		28. AWARD DATE	

IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

PART I - THE SCHEDULE
SECTION B
SUPPLIES OR SERVICES AND PRICES/COSTS

B-1 SUPPLIES OR SERVICES AND PRICES/COSTS

ITEM NUMBER	SUPPLIES OR SERVICES	QTY	UNIT	UNIT PRICE	AMOUNT
0001	Time-Resolved, 2-D Interferometer System in accordance with Section C.	1	EA	\$	\$
0002	Test Plan in accordance with Section C, Attachment 1, Section 7.a.	1	EA	\$	\$
0003	Training Plan in accordance with Section C, Attachment 1, Section 7.b, including documentation in accordance with Section 8.	1	EA	\$	\$

TOTAL DOLLAR AMOUNT FOR CLINs*: \$

*CONTRACT LINE ITEM NUMBER

OPTION ITEMS:

0004	Third Harmonic Generator in accordance with Attachment (1) Section 6.a.	1	EA	\$	\$
0005	Forth Harmonic Generator in accordance with Attachment (1) Section 6.b.	1	EA	\$	\$
0006	Tunable pulse width in accordance with Attachment (1) Section 6.c.	1	EA	\$	\$

SECTION C
DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK

C-1 Items furnished under this contract shall comply with Attachment (1), Specifications with Exhibit A, DD Form 1423, Contracts Data Requirements List, and all other Attachments cited in Section J, which are incorporated by reference into Section C.

C-2 REQUIREMENTS FOR ON-SITE CONTRACTORS

For those portions of the work under this contract performed at any NRL site, the contractor shall comply with the Requirements for On-Site Contractors dated 11 April 2000 which are hereby incorporated by reference. The full text is available at <http://heron.nrl.navy.mil/contracts/home.htm>.

**SECTION D
PACKAGING AND MARKING**

D-1 Preservation, packaging, packing and marking of all deliverable contract line items must conform to normal commercial packing standards to assure safe delivery at destination.

D-2 The Contractor shall mark all shipments under this contract in accordance with the edition of ASTM-D-3951-90 "Standard Practice for Commercial Packaging" in effect on the date of the contract.

**SECTION E
INSPECTION AND ACCEPTANCE**

E-1 INSPECTION AND ACCEPTANCE CLAUSES BY REFERENCE:

<u>FAR CLAUSE</u>	<u>TITLE</u>
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52.246-2	- Inspection Of Supplies - Fixed -Price (AUG 1996)
52.246-16	- Responsibility For Supplies (APR 1984)

<u>DFARS CLAUSE</u>	<u>TITLE</u>
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252.246-7000	- Material Inspection And Receiving Report (DEC 1991)
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E-2 INSPECTION AND ACCEPTANCE

Inspection and acceptance of the final delivery will be accomplished by the Technical Manager (TM) or Contracting Officer Representative (COR) designated in Section G of this contract. Inspection and acceptance will be performed at the Naval Research Laboratory, Washington DC 20375-5320.

SECTION F
DELIVERIES OR PERFORMANCE

F-1 DELIVERIES OR PERFORMANCE CLAUSES BY REFERENCE:

FAR CLAUSE	TITLE
52.211-17	- Delivery Of Excess Quantities (SEP 1989)
52.242-15	- Stop-Work Order (AUG 1989)
52.242-17	- Government Delay Of Work (APR 1984)
52.247-34	- F.O.B. Destination (NOV 1991)

F-2 FAR 52.211-8 - TIME OF DELIVERY (JUN 1997)

(a) The Government requires delivery to be made according to the following schedule:

REQUIRED DELIVERY SCHEDULE		
Item No.	Quantity	Within Days After Date of Contract Award
0001	1 EA	300
0002	1 EA	45 days prior to delivery date
0003	1 EA	45 days prior to delivery date
0004 - 0006	1 EA	300, if option is exercised

The Government will evaluate equally, as regards time of delivery, offers that propose delivery of each quantity within the applicable delivery period specified above. Offers that propose delivery that will not clearly fall within the applicable required delivery period specified above, will be considered nonresponsive and rejected. The Government reserves the right to award under either the required delivery schedule or the proposed delivery schedule, when an offeror offers an earlier delivery schedule than required above. If the offeror proposes no other delivery schedule, the required delivery schedule above will apply.

OFFERORS PROPOSED DELIVERY SCHEDULE		
Item No.	Quantity	Within Days After Date of Contract Award
0001	1 EA	
0002	1 EA	
0003	1 EA	
0004-0006	1 EA	

- (b) Attention is directed to the Contract Award provision of the solicitation that provides that a written award or acceptance of offer mailed, or otherwise furnished to the successful offeror, results in a binding contract. The Government will mail or otherwise furnish to the offeror an award or notice of award not later than the day award is dated. Therefore, the offeror should compute the time available for performance beginning with the actual date of award, rather than the date the written notice of award is received from the Contracting Officer through the ordinary mails. However, the Government will evaluate an offer that proposes delivery based on the Contractor's date of receipt of the contract or notice of award by adding (i) five calendar days for delivery of the award through the ordinary mails or (ii) one working day if the solicitation states that the contract or notice of award will be transmitted electronically. (The term "working day" excludes weekends and U.S. Federal holidays.) If, as so computed, the offered delivery date is later than the required delivery date, the offer will be considered nonresponsive and rejected.

F-3 PLACE OF DELIVERY - FOB DESTINATION

The contractor shall deliver supplies, all transportation charges paid, to destination in accordance with the clause in Section F of the Schedule titled FAR 52.247-34 FOB Destination (NOV 1991).

Naval Research Laboratory

Contract Number *

ATTN: *

CODE: *

LOCATION: *

4555 Overlook Avenue, SW

Washington DC 20375-5320

(* To be filled in at time of award.)

SECTION G
CONTRACT ADMINISTRATION DATA

G-1 PROCURING OFFICE REPRESENTATIVE

In order to expedite administration of the contract, the Administrative Contracting Officer (ACO) will direct inquiries to the appropriate office listed below. Please do not direct routine inquiries to the person listed in Item 20A on Standard Form 26.

Contract Matters- *

Security Matters- *

Safety Matters- *

Patent Matters- *

Release of Data- *

The ACO will forward invention disclosures and reports directly to the Associate Counsel for Patents, Code 1008.2, Naval Research Laboratory, Washington DC 20375-5320. The Associate Counsel for Patents will return the reports along with a recommendation to the Administrative Contracting Officer. The Associate Counsel for Patents will represent the Contracting Officer with regard to invention reporting matters arising under this contract.

(* To be filled in at time of award)

G-2 TECHNICAL MANAGER - FUNCTIONS AND LIMITATIONS

* is hereby designated the cognizant Technical Manager who will represent the Contracting Officer in the administration of technical details within the scope of this contract and inspection and acceptance. The Technical Manager is not otherwise authorized to make any representations or commitments of any kind on behalf of the Contracting Officer or the Government. The Technical Manager does not have the authority to alter the Contractor's obligations or change the specifications in the contract. If, as a result of technical discussions, it is desirable to alter contract obligations or statements of work, a modification must be issued in writing and signed by the Contracting Officer. The Technical Manager, after review and signature of the "Material Inspection and Receiving Report, DD Form 250, If applicable, will forward a copy to the Administrative Contracting Officer.

(* To be filled in at time of award)

G-3 NAPS 5252.232-9000 - SUBMISSION OF INVOICES (FIXED PRICE) (JUL 1992)

- (a) "Invoices" as used in this clause does not include contractor's requests for progress payments.
- (b) The contractor shall submit original invoices with 4 copies to the address identified in the solicitation/contract award form (SF 26-Block 10; SF 33-Block 23; SF 1447-Block 14), unless delivery orders are applicable, in which case invoices will be segregated by individual order and submitted to the address specified in the order (DD 1155-Block 13 or SF 26-Block 10).
- (c) The use of copies of the Material Inspection and Receiving Report (MIRR), DD Form 250, as an invoice is encouraged. DFARS Appendix F-306 provides instructions for such use. Copies of the MIRR used as an invoice are in addition to the standard distribution stated in DFARS F-401.
- (d) In addition to the requirements of the Prompt Payment clause of this contract, the contractor shall cite on each invoice the contract line item number (CLIN); the contract subline item number (SLIN), if applicable; the accounting classification reference number (ACRN) as identified on the financial accounting data sheets, and the payment terms.
- (e) The contractor shall prepare:
- ☐ a separate invoice for each activity designated to receive the supplies or services.
 - ☒ a consolidated invoice covering all shipments delivered under an individual order.
 - ☐ either of the above.
- (f) If acceptance is at origin, the contractor shall submit the MIRR or other acceptance verification directly to the designated payment office. If acceptance is at destination, the consignee will forward acceptance verification to the designated payment office.

G-4 INVOICING ADDRESS

With reference to paragraph (b) of the above provision, "Submission of Invoices(Fixed Price)", the contractor shall submit invoices to the address in Block 12 of the contract award form (SF26).

**SECTION H
SPECIAL CONTRACT REQUIREMENTS**

H-1 TYPE OF CONTRACT

(To be filled in at time of award)

H-2 YEAR 2000 COMPLIANT INFORMATION TECHNOLOGY

This requirement applies to information technology (IT) that processes date-related information. All such IT delivered under this contract shall be Year 2000 compliant as defined at FAR 39.002.

H-3 REPRESENTATIONS AND CERTIFICATIONS

The Contractor's completed Representations, Certifications, and Other Statements of Offerors or Respondents is incorporated herein by reference in any resultant award.

H-4 ON-SITE USE OF GOVERNMENT PROPERTY

It is anticipated that Government property will be used by the contractor's personnel in the performance of that portion of the contract performed on-site at the U.S. Naval Research Laboratory (NRL) including any of its field sites. Such use will be on a rent free basis and all such property shall be considered to remain in the possession and control of the NRL for property responsibility and accountability purposes.

H-5 OPTION(S)

The Government may require delivery of the optional items under this contract by the Contracting Officer's giving written notice at the date of contract award.

The Government may require delivery of the optional items under this contract by the Contracting Officer's giving written notice anytime from date of contract award through a period of two (2) years.

PART II - CONTRACT CLAUSES
SECTION I
CONTRACT CLAUSES

I-1 52.252-2 - CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.

Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://www.arnet.gov/far>

<http://heron.nrl.navy.mil/contracts/home.htm>

a. FEDERAL ACQUISITION REGULATION CLAUSES

<u>FAR CLAUSE</u>	<u>TITLE</u>
52.202-1	- Definitions (OCT 1995)
52.203-3	- Gratuities (APR 1984)
52.203-5	- Covenant Against Contingent Fees (APR 1984)
52.203-6	- Restrictions On Subcontractor Sales To The Government (JUL 1995)
52.203-7	- Anti-Kickback Procedures (JUL 1995)
52.203-8	- Cancellation, Rescission, And Recovery Of Funds For Illegal Or Improper Activity (JAN 1997)
52.203-10	- Price Or Fee Adjustment For Illegal Or Improper Activity (JAN 1997)
52.203-12	- Limitation On Payments To Influence Certain Federal Transactions (JUN 1997)
52.204-4	- Printed Or Copied Double-Sided On Recycled Paper (AUG 2000)
52.209-6	- Protecting The Government's Interest When Subcontracting With Contractors Debarred, Suspended, Or Proposed For Debarment (JUL 1995)
52.211-5	- Material Requirements (OCT 1997)
52.211-15	- Defense Priority And Allocation Requirements (SEP 1990)
52.215-2	- Audit And Records-Negotiation (JUNE 1999)
52.215-8	- Order Of Precedence - Uniform Contract Format (OCT 1997)
52.215-14	- Integrity Of Unit Prices (OCT 1997)
52.215-17	- Waiver Of Facilities Capital Cost Of Money (OCT 1997) (<i>will be included if the successful offeror does not propose facilities capital cost of money</i>)
52.215-21	- Requirements For Cost And Pricing Data Or Information Other Than Cost Or Pricing Data - Modifications (OCT 1997) - Alternate IV (OCT 1997)
52.219-4	- Notice Of Price Evaluation Preference For HUBZone Small Business Concerns (JAN 1999) <input type="checkbox"/> Offeror elects to waive the evaluation preference.
52.219-6	- Notice Of Total Small Business Set-Aside (JUL 1996)
52.219-8	- Utilization Of Small Business Concerns (OCT 2000)
52.219-14	- Limitations On Subcontracting (DEC 1996)
52.222-3	- Convict Labor (AUG 1996)
52.222-19	- Child Labor-Cooperation with Authorities and Remedies (Feb 2001)
52.222-20	- Walsh-Healey Public Contracts Act (DEC 1996)

- 52.222-21 - Prohibition of Segregated Facilities (FEB 1999)
- 52.222-26 - Equal Opportunity (FEB 1999)
- 52.222-35 - Affirmative Action For Disabled Veterans And Veterans Of The Vietnam Era (APR 1998)
- 52.222-36 - Affirmative Action For Workers With Disabilities (JUN 1998)
- 52.222-37 - Employment Reports On Disabled Veterans And Veterans Of The Vietnam Era (JAN 1999)
- 52.222-41 - Service Contract Act Of 1965, As Amended (MAY 1989)
- 52.223-3 - Hazardous Material Identification And Material Safety Data (JAN 1997)
- 52.223-5 - Pollution Prevention and Right-To-Know Information (APR 1998)
- 52.223-6 - Drug-Free Workplace (JAN 1997)
- 52.223-14 - Toxic Chemical Release Reporting (OCT 2000)
- 52.225-8 - Duty-Free Entry (FEB 2000)
- 52.225-13 - Restrictions On Certain Foreign Purchases (JUL 2000)
- 52.226-1 - Utilization Of Indian Organizations And Indian-Owned Economic Enterprises (JUN 2000)
- 52.227-1 - Authorization And Consent (JUL 1995)
- 52.227-2 - Notice And Assistance Regarding Patent And Copyright Infringement (AUG 1996)
- 52.227-3 - Patent Indemnity (APR 1984)
- 52.228-5 - Insurance - Work on a Government Installation (JAN 1997)
- 52.229-3 - Federal, State, And Local Taxes (JAN 1991)
- 52.229-5 - Taxes - Contracts Performed In U.S. Possessions Or Puerto Rico (APR 1984)
- 52.232-1 - Payments (APR 1984)
- 52.232-8 - Discounts For Prompt Payment (MAY 1997)
- 52.232-9 - Limitation On Withholding Of Payments (APR 1984)
- 52.232-11 - Extras (APR 1984)
- 52.232-16 - Progress Payments (MAR 2000) Alternate I (MAR 2000)
- 52.232-17 - Interest (JUN 1996)
- 52.232-23 - Assignment Of Claims (JAN 1986)
- 52.232-25 - Prompt Payment (JUN 1997)
- 52.232-33 - Payment By Electronic Funds Transfer-Central Contractor Registration (MAY 1999)
- 52.233-1 - Disputes (DEC 1998)
- 52.233-3 - Protest After Award (AUG 1996)
- 52.242-13 - Bankruptcy (JUL 1995)
- 52.243-1 - Changes - Fixed Price (AUG 1987)
- 52.245-2 - Government Property (Fixed-Price Contracts) (DEC 1989)
- 52.245-9 - Use And Charges (APR 1984)(DEVIATION)
- 52.245-19 - Government Property Furnished "As Is" (APR 1984)
- 52.246-24 - Limitation Of Liability - High-Value Items (FEB 1997)
- 52.247-64 - Preference For Privately Owned U.S. Flag Commercial Vessels (JUN 2000)
- 52.248-1 - Value Engineering (FEB 2000)
- 52.249-2 - Termination For Convenience Of The Government (Fixed Price) (SEP 1996)
- 52.249-8 - Default (Fixed-Price Supply And Service) (APR 1984)
- 52.251-1 - Government Supply Sources (APR 1984)
- 52.252-6 - Authorized Deviations In Clauses (APR 1984) fill in Defense Federal Acquisition Regulation Supplement (48 CFR Chapter 2);
- 52.253-1 - Computer Generated Forms (JAN 1991)

DFARS CLAUSE	TITLE
252.203-7001	- Prohibition On Persons Convicted Of Fraud Or Other Defense Contract Related Felonies (MAR 1999)
252.204-7000	- Disclosure Of Information (DEC 1991)
252.204-7002	- Payment For Subline Items Not Separately Priced (DEC 1991)
252.204-7003	- Control Of Government Personnel Work Product (APR 1992)
252.204-7004	- Required Central Contractor Registration (MAR 2000)
252.209-7000	- Acquisition From Subcontractors Subject To On-Site Inspection Under The Intermediate-Range Nuclear Forces (INF) Treaty (NOV 1995)
252.209-7004	- Subcontracting With Firms That Are Owned Or Controlled By The Government Of A Terrorist Country (MAR 1998)
252.223-7001	- Hazard Warning Labels (DEC 1991)
252.223-7006	- Prohibition On Storage And Disposal Of Toxic And Hazardous Materials (APR 1993)
252.225-7001	- Buy American Act And Balance Of Payments Program (MAR 1998)
252.225-7002	- Qualifying Country Sources As Subcontractors (DEC 1991)
252.225-7007	- Buy American Act--Trade Agreements—Balance Of Payments Program (APR 2000)
252.225-7008	- Supplies To Be Accorded Duty-Free Entry
252.225-7009	- Duty-Free Entry - Qualifying Country Supplies (End Products And Components) (AUG 2000)
252.225-7010	- Duty-Free Entry - Additional Provisions (AUG 2000)
252.225-7012	- Preference For Certain Domestic Commodities (AUG 2000)
252.225-7025	- Restriction On Acquisition Of Forgings (JUN 1997)
252.225-7031	- Secondary Arab Boycott Of Israel (JUN 1992)
252.227-7000	- Non-Estoppel (OCT 1966)
252.227-7001	- Release Of Past Infringement (AUG 1984)
252.232-7004	- DoD Progress Payment Rates (FEB 1996)
252.233-7000	- Certification Of Claims And Requests For Adjustment Or Relief (MAY 1994)
252.242-7000	- Postaward Conference (DEC 1991)
252.243-7001	- Pricing Of Contract Modifications (DEC 1991)
252.243-7002	- Requests For Equitable Adjustment (MAR 1998)
252.244-7000	- Subcontracts For Commercial Items And Commercial Components (DOD Contracts) (MAR 2000)
252.245-7001	- Reports Of Government Property (MAY 1994)
252.247-7023	- Transportation Of Supplies By Sea (MAR 2000)
252.247-7024	- Notification Of Transportation Of Supplies By Sea (MAR 2000) <i>(will be included if the successful offeror made a negative response to the inquiry at DFARS 252.247-7022)</i>
252.248-7000	- Preparation Of Value Engineering Change Proposals (MAY 1994)
252.251-7000	- Ordering From Government Supply Sources (MAY 1995)

I-2 FAR 52.222-42 - STATEMENT OF EQUIVALENT RATES FOR FEDERAL HIRES (MAY 1989)

In compliance with the Service Contract Act of 1965, as amended, and the regulations of the Secretary of Labor (29 CFR part 4), this clause identifies the classes of service employees expected to be employed under the contract and states the wages and fringe benefits payable to each if they were employed by the contracting agency subject to the provisions of 5 U.S.C. 5341 or 5332.

THIS STATEMENT IS FOR INFORMATION ONLY: IT IS NOT A WAGE DETERMINATION

Employee class	Monetary Wage - Fringe Benefits
_____	_____
_____	_____
_____	_____
_____	_____

I-3 FAR 52.223-11 - OZONE-DEPLETING SUBSTANCES (JUN 1996)**(a) Definitions.**

"Ozone-depleting substance", as used in this clause, means any substance designated as Class I by the Environmental Protection Agency (EPA) (40 CFR Part 82), including but not limited to chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or any substance designated as Class II by EPA (40 CFR Part 82), including but not limited to hydrochlorofluorocarbons.

(b) The Contractor shall label products which contain or are manufactured with ozone-depleting substances in the manner and to the extent required by 42 U.S.C. 7671j (b), (c), and (d) and 40 CFR Part 82, Subpart E, as follows:

"WARNING: Contains (or manufactured with, if applicable) _____, a substance(s) which harm(s) public health and environment by destroying ozone in the upper atmosphere."

* The Contractor shall insert the name of the substance(s).

I-4 DFARS 252.225-7008 - SUPPLIES TO BE ACCORDED DUTY-FREE ENTRY (MAR 1998)

In accordance with paragraph (b) of the Duty-Free Entry clause of this contract, in addition to duty-free entry for all qualifying country supplies (end products and components) and all eligible end products subject to applicable trade agreements (if this contract contains the Buy American Act - Trade Agreements - Balance of Payments Program clause or the Buy American Act - North American Free Trade Agreement Implementation Act - Balance of Payments Program clause), the following foreign end products that are neither qualifying country end products nor eligible end products under a trade agreement, and the following nonqualifying country components, are accorded duty free entry.

PART III - LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS

SECTION J

LIST OF ATTACHMENTS

- J-1** Attachment (1) - Specifications - 3 Pages, with Exhibit A - DD Form 1423, Contract Data Requirements - 1 Page.

PART IV - REPRESENTATIONS AND INSTRUCTIONS

SECTION K

**REPRESENTATIONS, CERTIFICATIONS
AND OTHER STATEMENTS OF OFFERORS OR RESPONDENTS**

K-1 Representations, Certifications, and Other Statements of Offerors or Respondents

Each Offeror must submit a completed Representations, Certifications, and Other Statements Of Offerors or Respondents with its proposal which is available electronically in full text at <http://heron.nrl.navy.mil/contracts/rep&certs.htm>

K-2 FILL IN FOR FAR 52.219-1 - SMALL BUSINESS PROGRAM REPRESENTATIONS (OCT 2000)

The fill in information is as follows:

The NAICS code for this acquisition is 541710.

The small business size standard is 500 employees.

SECTION L**INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS OR RESPONDENTS****L-1 52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)**

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

<http://www.arnet.gov/far>
<http://heron.nrl.navy.mil/contracts/home.htm>

FAR CLAUSE TITLE

52.204-6	-	Data Universal Numbering System (DUNS) Number (JUNE 1999)
52.214-34	-	Submission Of Offers In The English Language (APR 1991)
52.214-35	-	Submission Of Offers In U.S. Currency (APR 1991)
52.215-1	-	Instructions To Offerors- Competitive Acquisition (FEB 2000)
52.215-16	-	Facilities Capital Cost Of Money (OCT 1997)
52.232-13	-	Notice Of Progress Payments (APR 1984)
252.211-7005	-	Substitutions For Military Or Federal Specifications And Standards (AUG 2000)

L-2 FAR 52.211-14 - NOTICE OF PRIORITY RATING FOR NATIONAL DEFENSE USE (SEP 1990)

Any contract awarded as a result of this solicitation will be a ☐ DX rated order; ☒ DO rated order certified for national use under the Defense Priorities and Allocations system (DPAS) (15 CFR 700), and the Contractor will be required to follow all of the requirements of this regulation.

L-3 FAR 52.215-20 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA (OCT 1997)ALTERNATE IV (OCT 1997)

- (a) Submission of cost or pricing data is not required.
- (b) Provide information described below: Offerors should provide information to enable the Contracting Officer to determine that the proposed price is fair and reasonable. Such information could include published price lists, information on previous sales of the same or similar items, or the projected costs of fabricating and installing the item (material costs, labor costs, etc).

L-4 FAR 52.216-1 - TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a Firm Fixed Price Supply contract resulting from this solicitation.

L-5 FAR 52.233-2 - SERVICE OF PROTEST (AUG 1996)

(a) Protests, as defined in Section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO) shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from the Control Desk, Code 3200, Bldg. 222, Rm. 115, Naval Research Laboratory, 4555 Overlook Ave., S.W., Washington DC 20375-5326.

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

L-6 DFARS 252.227-7028 - TECHNICAL DATA OR COMPUTER SOFTWARE PREVIOUSLY DELIVERED TO THE GOVERNMENT (JUN 1995)

The Offeror shall attach to its offer an identification of all documents or other media incorporating technical data or computer software it intends to deliver under this contract with other than unlimited rights that are identical or substantially similar to documents or other media that the Offeror has produced for, delivered to, or is obligated to deliver to the Government under any contract or subcontract. The attachment shall identify - -

- (a) The contract number under which the data or software were produced;
- (b) The contract number under which, and the name and address of the organization to whom, the data or software were most recently delivered or will be delivered; and
- (c) Any limitations on the Government's rights to use or disclose the data or software, including, when applicable, identification of the earliest date the limitations expire.

L-7 INQUIRIES CONCERNING THE RFP

Any questions concerning the RFP must be submitted in writing to the Contracting Officer at the location noted in blocks 7 and 9 of the Standard Form 33, "Solicitation, Offer and Award," no less than fifteen (15) days before closing. The Government will not consider questions received after this date. Offerors are cautioned against directing any questions concerning this RFP to technical personnel at the Naval Research Laboratory.

L-8 INSTRUCTIONS FOR SUBMISSION AND INFORMATION REQUIRED TO EVALUATE PROPOSALS

(1) Information for the technical/management proposal shall be placed in Volume I and be completely separate from the business proposal (Volume II).

(2) Proposal Identification/Mailing - The proposal should be packaged for delivery so as to permit safe and timely arrival at destination. The proposal package should be sent to the address shown in Block 7 of the RFP face page and marked:

Solicitation No. N00173-00-R-SE01

Closing Date: (As specified in Block 9, RFP face page)

Attn: Code 32356

(3) Proposal Format and Length - No attempt is made to restrict the proposal format and style. However, the proposal should be written and organized so as to be compatible with the RFP. Offerors are encouraged to use recycled paper and maximize the use of double sided copying when preparing responses to solicitations.

L-9 VOLUME I - TECHNICAL PROPOSAL

REQUIRED COPIES: 1 ORIGINAL AND 3 COPIES .

TECHNICAL:

(1) The technical proposal must demonstrate an understanding of all requirements covered in the RFP's terms and conditions. The proposal must be sufficiently detailed and complete to demonstrate an understanding of and an ability to comply with the requirements of the RFP's Specifications identified in Section C. General statements that the offeror can or will comply with the requirements, that standard procedures will be used, that well known techniques will be used, or paraphrases of the RFP's Specification in whole or in part will not constitute compliance with these requirements concerning the content of the technical proposal. Failure to conform to any of the requirements of the RFP may form the basis for rejection of the proposal.

(2) The following information is required:

- (a) The offeror shall provide product literature or detailed technical narrative demonstrating the capability of the system offered meets the government's minimum needs as detailed in Attachment (1).
- (b) The offeror shall provide a sample Test and Training Plan, or narrative demonstrating their approach in providing quality assurance and training as required in Attachment (1), Section 7.
- (c) The offeror shall provide sample documentation or narrative demonstrating their approach in providing documentation in the form of operation, maintenance and instructional manuals.

PAST PERFORMANCE INFORMATION

(a) Offerors shall submit the following information as part of their proposal. (Offerors are encouraged to submit the information prior to other parts of the proposal to assist the government in reducing the length of the evaluation period.) List the last 5 contracts or orders completed during the past 3 years for items similar in nature to this requirement.

1. Name of customer
2. Contract/order number
3. Contract type
4. Total contract value
5. Description of the system
6. Contracting officer/customer and telephone number
7. Contracting officer's representative, program manager, or similar official and telephone number

(b) Offerors shall contact the contracting organizations identified pursuant to paragraph (a) as soon as possible and request them to send past performance information on the identified contracts to the address in Block 7 of the face page of this solicitation. The past performance report which is available electronically in full text at <http://heron.nrl.navy.mil/contracts/home.htm> is to be provided to the contracting organization for this purpose. If the contracting organization has already collected past performance information on the contract pursuant to FAR Subpart 42.15, the format used to collect the information may be used instead of the past performance report.

(c) Offerors may include in their proposals specific information relating to problems encountered in performing the identified contracts and any corrective actions by the offeror. Offerors should not provide general information on their performance on the identified contracts as this will be obtained from the contracting organizations.

L-10 VOLUME II - BUSINESS PROPOSAL

REQUIRED COPIES: 1 ORIGINAL AND 3 COPIES

(1) PRICE PROPOSAL

The offeror shall submit a business proposal that includes a price proposal with supporting information. The supporting information shall be copies of list or catalog pricing offered to the general public or a detailed breakdown including such elements as materials, direct labor, indirect cost, and other costs such as travel. The offeror shall provide exhibits as necessary to substantiate the price.

SECTION M
EVALUATION FACTORS FOR AWARD

M-1 EVALUATION

Award will be made to that offeror whose proposal is determined to be the best value to the Government, proposed price and other factors considered. The Government reserves the right to make award to other than the low offeror.

M-2 EVALUATION FACTORS FOR AWARD

Proposals will be evaluated in accordance with the following criteria. The technical factor is more important than the price factor. Technical proposals will be evaluated in accordance with the criteria stated in Section L.9 and L10. The criteria are grouped into two major categories; Technical and Price. The major category, technical, when all factors are combined, is of greater importance than price. Within the category of technical, evaluation will be completed in two phases. The first phase is verification that each proposal has met all the mandatory requirements listed IN section M-2-1. Failure to provide evidence that these mandatory requirements have or will be met will result in the proposal being rejected as non-responsive. The second phase will entail evaluation of technical factors weighted in descending order of importance as listed in Section M.3. Finally price will be evaluated.

M-2-1. MANDATORY REQUIREMENTS

The initial evaluation will be to determine if the following mandatory requirements contained in Section C have been met:

- (a) Test Plan – Attachment (1) Specifications, Section 7.a.
- (b) Training Plan – Attachment (1) Specifications Section 7.b.
- (c) Documentation – Attachment (1) Specifications Section 8.

M-2-2. WEIGHTED TECHNICAL EVALUATION FACTORS

This portion of the evaluation will consider the offeror's, understanding of and demonstrated capability to adequately provide the requirements listed in Section C and Attachment (1) Specifications. The Evaluation factors to be considered are weighted in descending order of importance. The reference to Attachment (1) section is listed in parenthesis:

(a) Technical Compliance

- (1) Interferometer system performance/capability (3)
- (2) Laser General Specifications (4.a.)
- (3) Laser Detailed Specifications (4.b)
- (4) Optical, Detection and Reconstruction Components (5)
- (5) Laser accessory options (6)

M-2-3. PAST PERFORMANCE

Past performance will be evaluated on the basis of the quality of the work performed or supplies delivered and timeliness of performance or delivery. The evaluation will be based on the information provided pursuant to Section L and other sources if available. Offerors that have no relevant performance history or for which past performance information is not available will not be evaluated favorably or unfavorably on past performance. The government may begin proposal evaluation prior to receipt of past performance information. If, after completion of proposal evaluation except evaluation of past performance, the contracting officer determines that evaluation of past performance will not affect the outcome of competitive selection, the contracting officer may waive its evaluation in accordance with FAR 15.304(c)(3)(iii).

M-2-4 PRICE TO THE GOVERNMENT

Proposed estimated price to the Government.

M-3 AWARD BY FULL QUANTITY

An offeror must propose on all items in this solicitation to be eligible for award.

M-4 FAR 52.217-5 - EVALUATION OF OPTIONS (JUL 1990)

Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

CONTRACT DATA REQUIREMENTS LIST
(2 Data Items)Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 220 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form to the Government Issuing Contracting Officer for the Contract/PR No. listed in Block E.

A. CONTRACT LINE ITEM NO. 0002, 0003		B. EXHIBIT A		C. CATEGORY: TDP _____ TM _____ OTHER _____	
D. SYSTEM / ITEM		E. CONTRACT / PR NO. 67-3203-01		F. CONTRACTOR	
1. DATA ITEM NO. A001	2. TITLE OF DATA ITEM Test Plan			3. SUBTITLE	
4. AUTHORITY (Data Acquisition Document No.)		5. CONTRACT REFERENCE Section C and Atch (1) Section 7		6. REQUIRING OFFICE Naval Research Laboratory	
7. DD 250 REQ	9. DIST STATEMENT REQUIRED	10. FREQUENCY One Time	12. DATE OF FIRST SUBMISSION See Section F-2	14. DISTRIBUTION	
8. APP CODE		11. AS OF DATE See Section F-2	13. DATE OF SUBSEQUENT SUBMISSION N/A	a. ADDRESSEE	b. COPIES
16. REMARKS The Contractor shall delivery a Test Plan for system performance and acceptance in accordance with Attachment (1) Section 7.a., at least 45 days prior to scheduled delivery.					
				15. TOTAL →	
1. DATA ITEM NO. A002	2. TITLE OF DATA ITEM Training Plan, Operation, Maintenance and Instructional manuals			3. SUBTITLE	
4. AUTHORITY (Data Acquisition Document No.)		5. CONTRACT REFERENCE Section C and Atch (1) Sections 7 and 8		6. REQUIRING OFFICE Naval Research Laboratory	
7. DD 250 REQ	9. DIST STATEMENT REQUIRED	10. FREQUENCY One Time	12. DATE OF FIRST SUBMISSION See Section F-2	14. DISTRIBUTION	
8. APP CODE		11. AS OF DATE See Section F-2	13. DATE OF SUBSEQUENT SUBMISSION N/A	a. ADDRESSEE	b. COPIES
16. REMARKS The Contractor shall provide a Training Plan detailing the training schedule to provide training on the operation and maintenance of the delivered Interferometer System. The Operation, Maintenance and Instructional manuals shall be in Contractor's format as approved by the COR.					
15. TOTAL →				0	1
G. PREPARED BY Eric J. Sogard		H. DATE	I. APPROVED BY		J. DATE

17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

Specifications for Time-Resolved, 2-D Interferometer System

1) Introduction:

This investment is for ongoing, Pulsed-Power-Physics R&D missions in the areas of nuclear weapons effects simulation (NWES) for the DoD and inertial confinement fusion (ICF) for the DOE. In both applications, a soft x-ray (0.5 keV to 10 keV) radiation pulse of 5-ns to 50-ns duration is generated from a pulsed-power-driven z-pinch with an implosion time ranging from 100 ns to 300 ns. Maximizing this radiation requires an understanding and optimization of the coupling between the generator and the z-pinch as well as the implosion dynamics of the z-pinch. This understanding is obtained through highly sophisticated, temporally-, spatially-, and spectrally resolved diagnostics. Another radiation source of interest is an electron-beam diode (producing higher energy photons). This source is important for NWES for the DoD as well as stockpile stewardship for the DOE. Understanding plasma dynamics in these sources, e.g., implosion stability, power flow, and diode closure, is an essential task for optimizing their radiation output. This acquisition, the technical details for which are given below, is required to achieve NRL's research goals and satisfy sponsor needs.

2) Background Information:

Details of the anticipated design and operation, and examples of implementation for the required system can be found in the following references:

- a) Niansheng Qi, Steven F. Fulgum, Rahul R. Prasad, and Mahadevan Krishnan, "Space and Time Resolved Electron Density and Current Measurements in a Dense Plasma Focus Z-Pinch," IEEE Trans. Plasma Sci. vol. 26, pp.1127 – 1137 (1998).
- b) M Murty, "Lateral Shearing Interferometers," in *Optical Shop Testing*, D. Malacara, Ed., Wiley, New York, 1992.
- c) Charles M. Vest, *Holographic Interferometry*, John Wiley and Sons, New York, 1978.
- d) F.C. Jahoda and R.E. Seimon, "Holographic Interferometry Cookbook," Los Alamos National Laboratory Informal Report LA-5058 MS, October, 1972

References a) and d) above can be found at the NRL Contract's Division website; <http://heron.nrl.navy.mil/contracts/home.htm> in the RFP section by clicking on solicitation number N00173-01-R-SE01. References b) and c) can be found in most public libraries.

3) System Performance:

The proposed acquisition is an interferometer system that can produce a two-dimensional (2-D) interferogram of the electron density distribution from the plasma associated with a z-pinch/plasma radiation source (PRS) or an electron-beam (e-beam) diode radiation source. The time duration for the interferogram shall be ≤ 300 ps (with an option for variable pulse width). The system shall have a minimum delay between an external trigger to the laser Q switch and the time of the (first) interferogram of ≤ 30 ns ± 1 ns, with no more than a 10% reduction from maximum laser energy. The interferograms shall be of sufficient quality to infer the plasma electron density and density distribution over a region associated with the radiation source of 1 cm x 1 cm to 4 cm x 10 cm. Because of the range of plasma densities to be probed and applications for its use, the system shall be capable of easy re-configuration for operation in a holographic interferometric mode or a shearing interferometric mode. The holographic technique shall have a phase resolution of $\lambda/2$ to 25λ , while the shearing technique shall have a phase resolution of 1λ to 250λ . The shearing mode shall have the capability of two interferograms for the same radiation pulse. The interval between these interferograms shall be pre selected but variable between 5 ns and 50 ns, using an optical delay. The system shall be reliable and rugged, be able to perform to specifications routinely in the environment of TW-class pulsed-power generators, and have a straightforward alignment procedure(s).

4) Laser Specifications:

a) General:

The laser shall have appropriate characteristics to perform high-quality interferometry on the plasmas associated with e-beam diode closure and PRS implosion on TW-class pulsed-power generators, yet flexible enough for other plasma diagnostic applications. The laser and all components associated with the laser shall be reliable and rugged in a pulsed-power environment. The laser shall be reproducible and reliably triggered in the electrical-noise environment associated with TW-class pulsed-power generators. This may require some form of shielding for the laser and its power supply. Reliable triggering shall be a factor in the evaluation process. The laser shall be straightforward to operate. The laser shall have the capability for operation at its fundamental frequency and at twice the fundamental frequency. The laser shall have the capability for external triggering of both the flashlamp and Q switch. Detailed laser specifications are listed below.

b) Detailed Laser Specifications:

Type:	pulsed, Nd:YAG at 1064 nm and 532 nm with a fundamental pulse width of ≤ 8 ns
Energy:	≥ 800 mJ at 1064 nm and ≥ 400 mJ at 532 nm with a variation of $\pm 3\%$ (RMS)
Repetition rate:	single pulse and variable 10 Hz (intended for alignment)
Pulse width:	≤ 300 ps $\pm 8\%$ (RMS) with $\leq 10\%$ loss in maximum beam energy
Line width:	≤ 0.2 cm ⁻¹ , obtained, e.g., from an etalon line narrower with, $\leq 10\%$ loss in maximum beam energy
Beam mode:	TEM ₀₀ near Gaussian
Beam diameter:	≤ 10 mm
Beam divergence:	≤ 0.6 mrad
Pointing stability:	≤ 100 μ rad
Triggering:	Flashlamp and Q switch shall have the ability to be triggered from separate external triggers. The delay between the Q-switch trigger and light output from laser shall be ≤ 10 ns ± 0.5 ns. The Q switch shall be triggerable at anytime between 50 to 80 μ s after the flashlamp is triggered with $\leq 15\%$ reduction in beam energy from maximum. The laser shall have output electrical timing fiducials indicating that the flashlamp and Q switch have triggered.

5) Optical, Detection, and Reconstruction Components. The Offeror shall provide all the required optical and detection components (including film and plates), alignment components, fast shutters, and components for producing the final interferogram, e.g., reconstructing the holographic interferograms. This includes all components necessary for two interferograms during one radiation pulse associated with the shearing mode. This also includes laser line filters, spatial, and neutral density filters to obtain adequate signal to noise between laser light and light from the radiation source. The lenses shall be achromatic to eliminate chromatic and spherical aberration.

6) Laser accessory options:

- i. third harmonic generator (frequency tripler), output energy ≥ 300 mJ
- ii. fourth harmonic generator (frequency quadrupler), output energy ≥ 200 mJ
- iii. tunable pulse width from 150 ps to 500 ps $\pm 8\%$ (RMS) with $\leq 10\%$ loss in maximum beam energy

All accessories shall be easily mounted to and de-mounted from the laser system

7. Mandatory Requirements:

- a) **TEST PLAN:** The Offeror shall provide a test plan to demonstrate the interferometer capability to meet the specification identified above. Specifically, the vendor shall be capable of demonstrating its ability to successfully produce interferograms in both the holographic and shearing modes (separate radiation pulses for each mode, two interferograms per pulse in shearing mode). The plan shall be in a form as determined by the Offeror with final selection of the timings for the interferograms and determination of the acceptability of the interferograms approved by the COR. The load shall be either a neon gas puff PRS at 0.5 MA or an e-beam diode at 1.5 MV. This demonstration shall be carried out over a time period of no more than 10 working days, not counting downtime associated with the generator.
- b) **TRAINING PLAN:** The Offeror shall provide a training plan to implement training of a minimum of 3 and a maximum of 5 NRL personnel on system operation and any required maintenance. Training shall be provided on site at the Naval Research Laboratory.
- c) **TEST/TRAINING REQUIREMENTS:** The Offeror shall deploy the interferometer system at a site to be determined on the Naval Research Laboratory. The Offeror will be provided with space and on-site use of Government Furnished Property (GFP) sufficient for deployment on either a Hawk or Gamble-II pulsed-power generators. NRL shall operate the pulsed power generator and provide the required data acquisition, trigger signals, and other ancillary services needed for the demonstration/training.

8. DOCUMENTATION

The Offeror shall provide a standard operation manual, standard maintenance manual and an instruction manual for the reconstruction of the holographic interferograms. This documentation shall be delivered at the same time as the test and training plans.